

1. A dynamically modular processing unit comprising:

a first non-peripheral based encasement;

a first processor coupled to a first optimized circuit board that includes a first bus system, wherein the first optimized circuit board is coupled to the first non-peripheral based encasement; and

a first dynamic back plane coupled to the first non-peripheral based encasement, wherein the first dynamic back plane provides flexibility and support to peripherals and applications.

2. A dynamically modular processing unit as recited in claim 1, wherein the first dynamic back plane includes one or more data manipulating systems, and wherein the first dynamic back plane is coupled to the first optimized circuit board.

3. A dynamically modular processing unit as recited in claim 2, wherein the first optimized circuit board includes a plurality of segments, wherein the plurality of segments are interconnected.

4. A dynamically modular processing unit as recited in claim 3, wherein the plurality of segments are interconnected in a layered circuit board configuration.

5. A dynamically modular processing unit as recited in claim 1, wherein one or more peripherals external to the first non-peripheral based encasement are selectively connected to the first bus system.

6. A dynamically modular processing unit as recited in claim 5, wherein the one or more peripherals external to the first non-peripheral based encasement include at least one of:

- (i) a mass storage device;
- 5 (ii) a peripheral input device;
- (iii) a peripheral output device;
- (iv) a network interface;
- (v) a second dynamically modular processing unit;
- (vi) a proprietary input connection;
- 10 (vii) a proprietary output connection; and
- (viii) a proprietary device.

7. A dynamically modular processing unit as recited in claim 6, wherein the second dynamically modular processing unit comprises:

- 15 a second non-peripheral based encasement;
- a second processor coupled to a second optimized circuit board that includes a second bus system, wherein the second optimized circuit board is coupled to the second non-peripheral based encasement; and
- a second dynamic back plane coupled to the second non-peripheral based
- 20 encasement, wherein the second dynamic back plane provides flexibility and support to peripherals and applications.

8. A dynamically modular processing unit as recited in claim 7, wherein the first bus system and the second bus system are directly coupled to form a single bus system for an enterprise having the dynamically modular processing units.

5 9. A dynamically modular processing unit as recited in claim 8, wherein the combination of the dynamically modular processing units provide increased processing power to the enterprise.

10 10. A dynamically modular processing unit as recited in claim 1, further comprising memory coupled to the first bus system and within the non-peripheral based encasement.

15 11. A dynamically modular processing unit as recited in claim 1, wherein the dynamically modular processing unit provides a processing platform that is employed in association with any type of electrical enterprise.

20 12. A dynamically modular processing unit as recited in claim 1, wherein the first dynamic back plane includes one or more data manipulating systems, and wherein a modification of the one or more data manipulating systems alters an application of the dynamically modular processing unit.

13. A dynamically modular processing unit as recited in claim 1, further comprising a cooling system, wherein the cooling system comprises a thermodynamic cooling process.

5 14. A dynamically modular processing unit as recited in claim 1, wherein the dynamically modular processing unit is configured to provide processing versatility through selective coupling to one or more other dynamically modular processing units in an enterprise, wherein all of the dynamically modular processing units are interconnected at the system bus level.

10 15. A dynamically modular processing unit as recited in claim 1, wherein the first dynamic back plane is selectively exchangeable with another dynamic back plane, and wherein the logic of the first dynamic back plane is different from the another dynamic back plane.

15 16. A dynamically modular processing unit as recited in claim 1, wherein the dynamically modular processing unit is employed in one of (i) a central processing unit, and (ii) an electronic consumer device.

20 17. A dynamically modular processing unit as recited in claim 1, wherein the dynamically modular processing unit is a handheld computer device.

18. A dynamically modular processing unit as recited in claim 17, wherein the handheld computer device is selectively coupled to at least one of (i) a peripheral input device, and (ii) a peripheral output device.

5 19. A dynamically modular processing unit as recited in claim 18, wherein the peripheral input device and the peripheral output device do not include processing power, and wherein the peripheral input device and the peripheral output device in combination with the dynamically modular processing unit forms a laptop computer device.

10 20. A dynamically modular processing unit as recited in claim 1, wherein the dynamically modular processing unit is used as a smart electronic consumer device.

21. A method for dynamically scaling processing power of a computer enterprise,
the method comprising:

providing a first modular processing unit having a first bus system;

providing a second modular processing unit having a second bus system,

5 wherein the first and second modular processing units each include a non-peripherals-
based encasement comprising:

a primary body chassis for providing main support to the encasement;

one or more plates removably coupled to the primary body chassis for
enclosing the encasement and providing access to an interior portion of the
10 encasement;

one or more processing components removably coupled to the
encasement; and

means for dissipating thermal discharge from the encasement and to
the surrounding ambient air, the thermal discharge generated by the
15 processing components; and

coupling the first modular processing unit to the second modular processing
unit to produce scaled processing power.

22. A method as recited in claim 21, wherein the first bus system and the second
20 bus system are directly coupled to form a single bus system for an enterprise having the
dynamically modular processing units.

23. A method as recited in claim 21, further comprising a step for coupling the first and second modular processing units to other modular processing units to provide a supercomputer.

5 24. A method as recited in claim 21, wherein the step for coupling the first modular processing unit to the second modular processing unit to produce scaled processing power includes coupling the modular processing units in a clustered, inter-functional and inter-communicational relationship.

10 25. A method as recited in claim 21, further comprising a step for dedicating at least some processing power of the first modular processing unit for a first type of processing and dedicating at least some processing power of the second modular processing unit for performing a second type of processing.

26. A modular processing system comprising:

a first non-peripheral based encasement having first, second and third side wall supports and first and second end plates removably coupled to the first non-peripheral based encasement and comprising a plurality of ventilation ports;

5 a first processor coupled to a first optimized circuit board that includes a first bus system, wherein the first optimized circuit board is coupled to the first non-peripheral based encasement, wherein the first optimized circuit board is a tri-board electrical printed circuit board configuration removably secured within the encasement; and

10 a first interchangeable back plane coupled to the first non-peripheral based encasement, wherein the first dynamic back plane provides flexibility and support to peripherals and applications.

27. A modular processing system as recited in claim 26, wherein one or more
15 peripherals external to the first non-peripheral based encasement are selectively connected to the first bus system to form an enterprise.

28. A modular processing system as recited in claim 27, wherein the one or more peripherals external to the first non-peripheral based encasement include at least one of:

- (i) a mass storage device;
- (ii) a peripheral input device;
- 5 (iii) a peripheral output device;
- (iv) a network interface;
- (v) a second dynamically modular processing unit;
- (vi) a proprietary input connection;
- (vii) a proprietary output connection; and
- 10 (viii) a proprietary device.

29. A modular processing system as recited in claim 28, wherein the second dynamically modular processing unit comprises:

- a second non-peripheral based encasement;
- 15 a second processor coupled to a second optimized circuit board that includes a second bus system, wherein the second optimized circuit board is coupled to the second non-peripheral based encasement; and
- a second dynamic back plane coupled to the second non-peripheral based encasement, wherein the second dynamic back plane provides flexibility and support
- 20 to peripherals and applications.

30. A modular processing system as recited in claim 29, wherein the first bus system and the second bus system are directly coupled to form a single bus system for an enterprise having the dynamically modular processing units.